

QSFP+ IR4 PSM InterBOARD™ 40Gbps Optical Transceiver



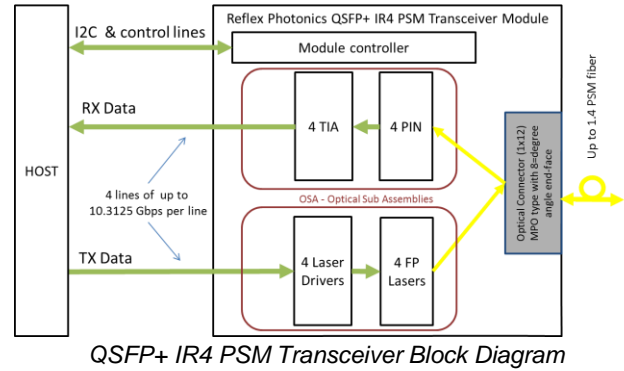
PI-X04-C01801-02 QSFP+ IR4 PSM

Product Summary

The Quad Small Form-Factor Pluggable (QSFP+) IR4 Parallel Single-Mode (PSM) Optical transceiver is a highly integrated 4-channel optical module that provides increased port density and total system cost savings. The QSFP+ full-duplex optical modules offer 4 transmit and 4 receive channels, each capable of 10.3125 Gbps operation for an aggregate bandwidth of 41.25 Gbps over 1.4 km of parallel single-mode optical fiber where transceiver channels use 1310nm center wavelength.

The QSFP+ IR4 PSM transceiver modules have been designed to meet the harshest external operating conditions including temperature, humidity and EMI interference. The modules offer very high functionality and feature integration, accessible via a two-wire serial interface.

PSM IR4 contains a MPO connector for the optical interface and a 38-pin connector for the electrical interface. To minimize the optical dispersion in the long-haul system, parallel single-mode fiber (PSM) has to be applied in this module.



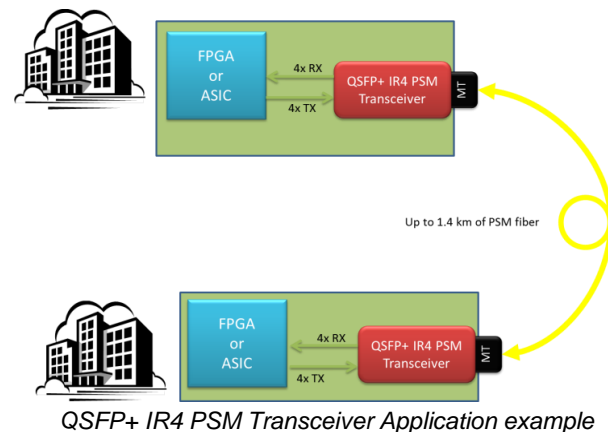
QSFP+ IR4 PSM Transceiver Block Diagram

Specifications and Features Highlights

- Up to 10.3125 Gbps per channel bandwidth
- 4 Parallel lanes design
- Single +3.3V power supply
- CML compatible electrical I/O
- Up to 1.4 km transmission distance on Single-Mode Optical Fiber (SMF)
- MPO with 8-degree angled end-face
- Operating case temperature: 0 to 70°C
- Digital diagnostic capabilities
- Maximum power consumption 3.5 W
- QSFP+ MSA compliant
- RoHS-6 compliant

Applications

- Data Centers
- Ethernet 40G
- Infiniband QDR, DDR, SDR
- 40G Campus link

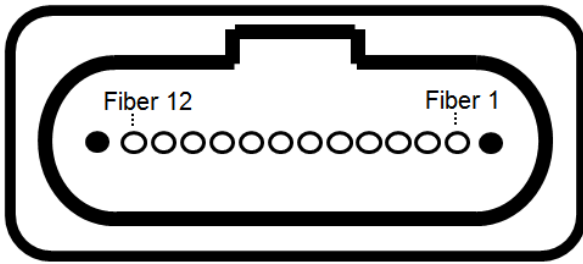


QSFP+ IR4 PSM Transceiver Application example

Optical Interface Lanes

The figure and table below show the orientation of the multi-mode fiber facets of the optical connector and the lane assignment respectively.

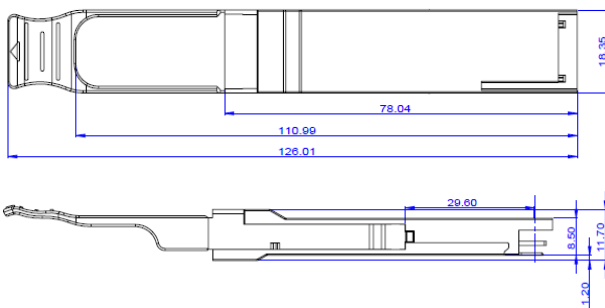
Important: To minimize MPO connection induced reflections, an MPO receptacle with 8-degree angled end-face is utilized for this product. A female MPO connector with 8-degree end-face should be used.



Outside view of the QSFP+ IR4 PSM module MPO receptacle

MPO Fiber #	Lane Assignment	MPO Fiber #	Lane Assignment
1	RX0	7	Unused
2	RX1	8	Unused
3	RX2	9	TX3
4	RX3	10	TX2
5	Unused	11	TX1
6	Unused	12	TX0

Mechanical Considerations



Compliance

Description	Specification
Safety	Laser Class 1 product EN 60825-1: 2007
EMC	EN 55022: 2010 EN:55024:2010
RoHS	2002/95/EC
General information only; details are in data spec	

Ordering Information

Part Number	Description
PI-X04-C01801-02	40G Ethernet, QSFP+ IR4 PSM, 1.4km Fiber Optic Transceiver Module (10.3 Gbps per channel/RX and TX).

For more information on this or other products:
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Note: Document revision history is present in separate document.